TECHNOLOGY NEEDS/OPPORTUNITIES STATEMENT

TRU WASTE FIXATIVES FOR PFP

Identification No.: RL-DD04
Date: October 2000

Program: Nuclear Material Stabilization
OPS Office/Site: Richland Operations Office/Hanford Site
PBS No.: RL-CP03
Waste Stream: TBD
TSD Title: TBD
Operable Unit (if applicable): N/A
Waste Management Unit (if applicable): N/A
Facility: Plutonium Finishing Plant (PFP)

Priority Rating:

This entry addresses the "Accelerated Cleanup: Paths to Closure (ACPC)" Priority:

_X_ 1. Critical to the success of the ACPC.
____ 2. Provides substantial benefit to ACPC projects (e.g., moderate to high life-cycle cost savings or risk reduction, increased likelihood of compliance, increased assurance to avoid schedule delays).
____ 3. Provides opportunities for significant, but lower cost savings or risk reduction, and may reduce uncertainty in ACPC project success.

***Need Title*:** TRU Waste Fixatives for PFP.

Need/Opportunity Category: *Technology Need* -- There is no existing or currently identified technology capable of solving the Site's problem (i.e., technology gap exists, no baseline approach has been identified).

Need Description: Long-life fixatives that can contain dispersible radioactive materials that are easily applied to and removed from surfaces are needed. Such fixatives could be used on a variety of surfaces such as those encountered in materials processing facilities, glove boxes, and ductwork.

Schedule Requirements:

Earliest Date Required: 09/2005
Latest Date Required: 09/2014

Although schedules are not firm, initial selection of the technology should occur in early 2002. Deployment may occur through 2014.

Problem Description: Dispersible surface contamination is present in materials processing facilities. Such dispersible contamination often presents health risk to the worker and potential environmental concern. In areas where decontamination is not feasible, dispersible contamination is fixed in place.

Potential Life-Cycle Cost Savings of Need (in $000s) and Cost Savings Explanation: None defined at this time; baseline technologies have not been selected.

Benefit to the Project Baseline of Filling Need: Achieve terminal cleanout and D&D tasks effectively and at minimum cost.

Relevant PBS Milestone: TRP-14-401, Complete PFP deactivation, 9/30/16

Functional Performance Requirements: The fixative may be used to contain dispersible alpha contamination. The fixative must be easily removable to allow for eventual decontamination. It needs to last 20 to 25 years, and a thin film is preferred. Deployment of a two-phased fixative technology is acceptable: (1) long-term fixative; (2) stripper that easily removes the long term fixative.

Work Breakdown Structure (WBS) No. :	***TIP No.:***
1.4.5 - PFP	TRP-02-497

Justification For Need:

Technical: Dispersible radioactive contamination can present safety/exposure concerns.

Regulatory: Completion of PFP terminal clean-out and waste removal

Environmental Safety & Health: Dispersible radioactive contamination can present safety/exposure concerns.

Cultural/Stakeholder Concerns: Employee and public exposure to radioactive materials is a concern of Hanford Site stakeholders.

Other: None identified.

Current Baseline Technology: Paint, tar, polymeric barrier systems, rustoleum.

End-User: Fluor Hanford Inc. Nuclear Materials Stabilization Project.

Contractor Facility/Project Manager: George W. Jackson, Director, Nuclear Materials Stabilization Project, Fluor Hanford, Inc., (509) 373-6622

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